

REMARKS

Claim 60 is amended. Claim 69 is cancelled. Claims 60-64, 66-68 and 70 are pending in the application.

Claim 69 stands rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make or use the invention. The Examiner states that the specification does not provide enablement for a deposition rate of 7,000 Å per minute at a temperature of 640°C to 900°C. Without admission as to the propriety of the Examiner's rejection, claim 69 is cancelled.

Claims 60-64 and 66-70 stand rejected under 35 U.S.C. § 112, first paragraph, based on a lack of enablement. With respect to independent claim 60 the Examiner states that utilization of a cold wall reactor is an essential feature for practice of the invention. Without admission as the propriety of the Examiner's statements, claim 60 is amended to recite a cold wall chemical vapor deposition reactor. Accordingly, applicant respectfully requests withdrawal of the § 112, first paragraph, rejection of independent claim 60, and of dependent claims 61-64, 66-68 and 70 which depend therefrom, in the Examiner's next action.

Claims 60-64, 66-68 and 70 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sukharev, U.S. Patent No. 5,710,079 in view of Tsukune, U.S. Patent No. 5,314,724. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest

all of the claim limitations. Claims 60-64, 66-68 and 70 are allowable over the cited references for at least the reason that the references, individually or as combined, fail to disclose or suggest each and every limitation in any of those claims.

Independent claim 60 recites feeding a gaseous silicon precursor, feeding gaseous H_2O_2 , and utilizing the silicon precursor to deposit SiO_2 over a surface of a substrate at a rate of about 7,000 Å per minute to form a layer of SiO_2 . As acknowledged by the Examiner at page 3 of the present action, Sukharev does not disclose or suggest the deposition of SiO_2 at a rate of about 7,000 Å per minute.

As fully set forth in applicant's response to the November 4, 2002 Office Action, Tsukune distinctly discloses formation of a SiO_2 film by depositing a thin film of an organic-group-containing compound on a substrate and subsequently converting the film into a silicon oxide film (abstract; col. 1, ll. 51-65; col. 6, ll. 33-47; and col. 9, ll. 22 through col. 10, ll. 32). Tsukune further indicates that the disclosed invention is directed toward providing a planarized insulation film that direct deposition of SiO_2 results in cracking and prevents planarization (col. 4, ll. 42-52; col. 5, ll. 33-52; and col. 9, ll. 5-21). Tsukune distinctly expresses that the disclosed invention is aimed at overcoming problems encountered by direct deposition of SiO_2 film and therefore teaches away from the recited depositing SiO_2 over a surface of a substrate to form a layer of SiO_2 .

The Examiner states at page 4 of the present action that Tsukune discloses a CVD method of "depositing SiO_2 " wherein the deposition rate is in one exemplary embodiment disclosed as being 7,000 Å per minute. As indicated above, Tsukune does not disclose "depositing a SiO_2 layer" as indicated by the Examiner and in fact teaches away from such direct deposition. The deposition rates disclosed by Tsukune are rates of deposition of an

organic-group-containing thin film which is subsequently converted to silicon oxide. As combined with Sukharev, the depositing of an organic-group-containing compound disclosed by Tsukune does not contribute toward suggesting the claim 60 recited depositing SiO₂ over a surface of a substrate at a rate of about 7,000 Å per minute to form a layer of SiO₂. Further, since Tsukune clearly and specifically teaches away from direct deposition of SiO₂, such disclosure cannot be properly combined with Sukharev as a basis of a § 103 rejection of claim 60 which clearly recites "depositing SiO₂".

Dependent claims 61-64, 66-68 and 70 are allowable over the cited combination of Sukharev and Tsukune for at least the reason that they depend from allowable base claim 60.

For the reasons discussed above, claims 60-64, 66-68 and 70 are allowable. Accordingly, applicant respectfully requests formal allowance of pending claims 60-64, 66-68 and 70 in the Examiner's next action.

Respectfully submitted,

Dated:

July 28, 2003

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